UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R070XC113NM

Site Name: Shallow

Precipitation or Climate Zone: 13 to 16 inches

Phase:

PHYSIOGRAPHIC FEATURES

Narrative:

This site occurs on gently sloping to undulating terrain. Slopes vary from 1 to 15 percent. Aspect varies and is not significant. Elevations range from 5,000 to 7,000 feet above sea level.

Land Form:

1. Plain
2.
3.

Aspect:

1. N/A
2.
3.

	Minimum	Maximum
Elevation (feet)	5,000	7,000
Slope (percent)	1	15
Water Table Depth (inches)	N/A	N/A

Flooding:	**Minimum**	**Maximum**
Frequency	N/A	N/A
Duration	N/A	N/A

Ponding:	**Minimum**	**Maximum**
Depth (inches)	N/A	N/A
Frequency	N/A	N/A
Duration	N/A	N/A

Runoff Class:

Negligible to medium.

CLIMATIC FEATURES

Narrative:

The climate of the area is "semi-arid continental."

The average annual precipitation ranges from 13 to 16 inches. Variations of 5 inches, more or less, are not uncommon. Seventy-five percent of the precipitation falls from April to October. Most of the summer precipitation comes in the form of high-intensity short-duration thunderstorms.

Distinct seasonal changes and large annual and diurnal temperature changes characterize temperatures. The average annual temperature is about 50 degrees F with extremes of -29 degrees F in the winter and 103 degrees F in the summer.

The average frost-free season is 130 to 160 days. The last killing frost falling in early May and the first killing frost in early October.

Both temperature and precipitation favor warm-season perennial species. However, about 40 percent of the annual precipitation fall at a time favorable to cool-season plant growth. The soil on this site cannot store much moisture. However, due to the depth and surface texture most of the precipitation that falls during the frost-free season is valuable. Strong winds blow across this area from February to June that carry wind-blown particles and rapidly dry out the soil during a critical period for cool-season plant growth.

Climate data was obtained from http://www.wrcc.sage.dri.edu/summary/climsmnm.html web site using 50% probability for freeze-free and frost-free seasons using 28.5 degrees F and 32.5 degrees F respectively.

	Minimum	Maximum
Frost-free period (days):	131	173
Freeze-free period (days):	155	187
Mean annual precipitation (inches):	13	16

Monthly moisture (inches) and temperature (^{0}F) distribution:

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	.34	.92	15.6	42.1
February	.34	.81	19.9	52.9
March	.23	.98	24.4	59.7
April	.39	.96	31.4	68.9
May	.85	1.61	39.2	77.7
June	.89	1.62	46.9	87.1
July	1.77	2.75	53.1	88.5
August	2.46	3.22	51.9	85.7
September	1.54	2.26	44.3	80.4
October	1.00	1.51	32.8	70.5
November	.57	1.02	22.2	57.5
December	.34	1.16	15.9	49.3

Climate Stations:

				Period		
Station ID	291918	Location	Clines Corners 7SE, NM	From: 12/10/68	To:	11/30/00
Station ID	292096	Location	Corona 11SSW, NM	From: 12/01/77	To:	09/30/92
Station ID	293060	Location	Estancia, NM	From: 01/01/14	To:	12/31/00
Station ID	293649	Location	Gran Quivira Natl. Monument, NM	From: 06/01/38	To:	12/31/00
Station ID	295965	Location	Mountainair, NM	From: 03/01/14	To:	12/31/00
Station ID	299405	Location	Vaughn, NM	From: 01/01/71	To:	12/31/00

INFLUENCING WATER FEATURES

Narrative:

This site is not influenced by water from a wetland or stream.

Wetland description:

System	Subsystem	Class
N/A		

If Riverine Wetland System enter Rosgen Stream Type:

N/A

REPRESENTATIVE SOIL FEATURES

Narrative:

Surface textures range from loam to gravelly loam. These soils are usually less than 20 inches deep over a petrocalcic layer, weakly cemented caliche or unweathered bedrock. Water intake is moderate to rapid, and water-holding capacity is usually low.

Parent Material Kind: Alluvium
Parent Material Origin: Mixed

Surface Texture:

1. Loam
2. Gravelly loam
3.

Surface Texture Modifier:

1. Petrocalcic layer
2. Weakly cemented caliche
3. Unweathered bedrock

Subsurface Texture Group: Loamy
Surface Fragments <=3" (% Cover): N/A
Surface Fragments >3" (% Cover): N/A

Subsurface Fragments <=3" (%Volume): 15 to 35
Subsurface Fragments >=3" (%Volume): 15 to 35

	Minimum	Maximum
Drainage Class:	Well	Well
Permeability Class:	Slow	Moderately slow
Depth (inches):	2	60
Electrical Conductivity (mmhos/cm):	0.00	2.00
Sodium Absorption Ratio:	0.00	4.00
Soil Reaction (1:1 Water):	6.6	8.4
Soil Reaction (0.1M CaCl2):	N/A	N/A
Available Water Capacity (inches):	1	4
Calcium Carbonate Equivalent (percent):	N/A	N/A

PLANT COMMUNITIES

Ecological Dynamics of the Site:

Plant Communities and Transitional Pathways (diagram)

Plant Community Name: Historic Climax Plant Community

Plant Community Sequence Number: 1 **Narrative Label**: HCPC

Plant Community Narrative: Historic Climax Plant Community
This is a grassland site characterized by a mixture of warm/cool-season perennial grasses. There are a large number of shrubs and trees throughout this site. Forbs are scattered and may be plentiful during years of abundant rainfall.

Canopy Cover:	
Trees	3 – 5 %
Shrubs and half shrubs	3 – 5 %
Ground Cover (Average Percent of Surface Area).	
Grasses & Forbs	12 – 15
Bare ground	25 – 40
Surface cobble and stone	30 – 50
Litter (percent)	8 – 10
Litter (average depth in cm.)	2

Plant Community Annual Production (by plant type):

Annual Production (lbs/ac)

Plant Type	Low	RV	High
Grass/Grasslike	240	520	800
Forb	30	65	100
Tree/Shrub/Vine	24	52	80
Lichen			
Moss			
Microbiotic Crusts			
Total	300	650	1,000

Plant Community Composition and Group Annual Production:

Plant Type - Grass/Grasslike

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	BOCU	Sideoats Grama	98 – 130	98 – 130
2	BOER4	Black Grama	33 – 98	33 – 98
3	SCSC	Little Bluestem	33 – 65	33 – 65
4	BOGR2 PLJA BOHI2	Blue Grama Galleta Hairy Grama	65 – 98	65 – 98
5	HECO26 HENE5	Needleandthread New Mexico Feathergrass	33 – 65	33 – 65
6	LYPH	Wolftail	20 – 33	20 – 33
7	PASM	Western Wheatgrass	33 – 65	33 – 65
8	ELEL5	Bottlebrush Squirreltail	20 – 33	20 – 33
9	ARIST	Threeawn	20 – 33	20 – 33
10	2GRAM	Other Grasses	46 – 65	46 - 65

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
11	ERIOG	Wildbuckwheat	7 – 13	7 – 13
12	CACO17	Indian Paintbrush	7 – 13	7 – 13
13	PLPA2	Wooly Indianwheat	7 – 13	7 – 13
14	PENST	Penstemon	7 – 13	7 – 13
15	2FORBS	Other Forbs	7 – 13	7 - 13

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
16	MATR3	Algerita	13 – 33	13 – 33
17	GUSA2	Broom Snakeweed	7 – 20	7 – 20
18	ATCA2 KRLA2 ARBI3	Fourwing Saltbush Winterfat Bigelow Sagebrush	33 –65	33- 65
19	2SD	Other Shrubs	13 – 33	13 - 33

Plant Type - Lichen

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Moss

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Microbiotic Crusts

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Other grasses that could appear on this site include: sand dropseed, mesa dropseed, alkali sacaton, mountain muhly, curlyleaf muhly, silver bluestem, big bluestem, buffalograss, tridens spp., sand muhly, ring muhly, mat muhly, spike muhly, Indian ricegrass, and bush muhly.
Other Shrubs can include: wolfberry, fringed sagewort, yucca spp., cacti spp., feather dalea, catclaw, skunkbush sumac, oak spp., pinyon and juniper.
Other forbs include: purple nightshade, scarlet globemallow, croton spp., threadleaf groundsel, and Russian thistle.

Plant Growth Curves

Growth Curve ID **4313NM**

Growth Curve Name: **HCPC**

Growth Curve Description: **Mixed warm/cool-season perennial grassland with a major shrub and tree component and scattered forbs.**

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	5	7	10	15	25	25	8	5	0	0

ECOLOGICAL SITE INTERPRETATIONS

Animal Community:

Habitat for wildlife:

This site produces habitat which supports a resident animal community that is characterized by mule deer, pronghorn antelope, coyote, blacktailed jackrabbit, Merriam's kangaroo rat, white throated woodrat, silky pocket mouse, sparrow hawk, Cassin's kingbird, chipping sparrow, plateau whiptail, short-horned lizard, and prairie rattlesnake. Where pinyon and/or juniper increase under condition of site deterioration, mule deer, gray fox, pinyon mouse, and scrubjay characterize the site.

Hydrology Functions:

The runoff curve numbers are determined by field investigations using hydrologic cover conditions and hydrologic soil groups.

Hydrologic Interpretations

Soil Series	Hydrologic Group
Hogadero	D
Kech	D
Oro Grande	D
Pastura	D
Pena	B

Recreational Uses:

This site offers fair potential for hiking, backpacking, horseback riding, and camping. Hunting for antelope, deer and small game is good to fair. Trapping for fur-bearing animals is good.

Wood Products:

There is no potential for wood products on this site. However, in some areas there are established stands of pinyon and/or juniper that should be utilized for fuelwood and fence material. Care should be taken when harvesting, due to the shallow soils.

Other Products:

Grazing:

This site is suited to grazing by all kinds and classes of livestock during all times of the year. However, this site is not suited for continuous yearlong or growing season grazing. Under continuous grazing, range deterioration is characterized by a decrease in sideoats grama, black grama, little bluestem, needleandthread, New Mexico feathergrass, fourwing saltbush, and winterfat. There will also be an increase in plants such as blue grama, threeawn, algerita, and broom snakeweed. As deterioration continues, a very low-vigor sod-type blue grama will dominate. This will cause a drop in total production and an increase in bare ground and erosion. In some areas, this site will support a stand of pinyon and/or juniper, as the condition deteriorates.

Other Information:

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month

Similarity Index	Ac/AUM
100 - 76	2.6 – 3.5
75 – 51	3.4 – 4.9
50 – 26	4.5 – 7.0
25 – 0	7.0+

Plant Part	Code	Species Preference	Code
Stems	S	None Selected	NS
Leaves	L	Preferred	P
Flowers	F	Desirable	D
Fruits/Seeds	F/S	Undesirable	U
Entire Plant	EP	Not Consumed	NC
Underground Parts	UP	Emergency	E
		Toxic	T

Plant Preference by Animal Kind:

Animal Kind: Livestock
Animal Type: Cattle

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Black Grama	Bouteloua eriopoda	EP	P	P	P	D	D	D	D	D	D	D	P	P
Little Bluestem	Schizachyrium scoparium	EP	D	D	D	P	P	P	P	D	D	D	D	D
Needleandthread	Hesperostipa comata	EP	D	D	P	P	P	D	D	D	D	D	D	D
New Mexico Feathergrass	Hesperostipa neomexicana	EP	D	D	P	P	P	D	D	D	D	D	D	D
Pine Dropseed	Blepharoneuron tricholepis	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Pinyon Ricegrass	Piptochaetium fimbriatum	EP	P	P	P	P	P	P	P	P	P	P	P	P
Western Wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	D	D	D	U
Fourwing Saltbush	Atriplex canescens	L/S	P	P	P	P	P	D	D	D	D	D	D	P
Winterfat	Krascheninnikovia lanata	L/S	D	D	P	P	P	P	P	P	D	D	D	D

Animal Kind: Livestock
Animal Type: Sheep

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Black Grama	Bouteloua eriopoda	EP	P	P	P	D	D	D	D	D	D	D	P	P
New Mexico Feathergrass	Hesperostipa neomexicana	EP	D	D	P	P	P	D	D	D	D	D	D	D
Western Wheatgrass	Pascopyrum smithii	EP	U	U	D	D	D	D	D	D	D	D	D	U
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	U	U	U	U
Fourwing Saltbush	Atriplex canescens	L/S	D	D	P	P	P	P	P	P	D	D	D	D
Winterfat	Krascheninnikovia lanata	L/S	P	P	P	P	P	P	P	P	P	P	P	P
Bigelow Sagebrush	Artemisia bigelovii	L/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Wildbuckwheat	Eriogonum spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U
Penstemon	Penstemon spp.	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S

Animal Kind: Livestock
Animal Type: Goats

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Western Wheatgrass	Pascopyrum smithii	EP	U	U	D	D	D	U	U	U	U	U	U	U
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	U	U	U	U
Fourwing Saltbush	Atriplex canescens	L/S	D	D	D	D	D	D	D	D	D	D	D	D
Winterfat	Krascheninnikovia lanata	L/S	D	D	D	D	D	D	D	D	D	D	D	D
Bigelow Sagebrush	Artemisia bigelovii	L/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Wildbuckwheat	Eriogonum spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U
Wooly Indianwheat	Plantago purshii	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S

Animal Kind: Wildlife
Animal Type: Antelope

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Western Wheatgrass	Pascopyrum smithii	EP	U	U	D	D	D	U	U	U	U	U	U	U
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	U	U	U	U
Fourwing Saltbush	Atriplex canescens	L/S	D	D	D	D	D	D	D	D	D	D	D	D
Winterfat	Krascheninnikovia lanata	L/S	D	D	D	D	D	D	D	D	D	D	D	D
Bigelow Sagebrush	Artemisia bigelovii	L/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Wildbuckwheat	Eriogonum spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U
Wooly Indianwheat	Plantago purshii	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S

SUPPORTING INFORMATION

Associated sites:

Site Name	Site ID	Site Narrative

Similar sites:

Site Name	Site ID	Site Narrative

State Correlation:

This site has been correlated with the following sites: _____

Inventory Data References:

Data Source	# of Records	Sample Period	State	County

Type Locality:

State: **New Mexico**

County: **Chavez, De Baca, Guadalupe, Lincoln, San Miguel, Santa Fe, Torrance**

Latitude: _____

Longitude: _____

Township: _____

Range: _____

Section: _____

Is the type locality sensitive? **Yes** ☐ **No** ☐

General Legal Description: _____

Relationship to Other Established Classifications:

Other References:

Data collection for this site was done in conjunction with the progressive soil surveys within the Pecos-Canadian Plains and Valleys 70 Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys: Chaves, De Baca, Guadalupe, Lincoln, Sna Miguel, Santa Fe, Torrance.

Characteristic Soils Are:	
Hogadero	Kech
Oro Grande	Pastura
Pena	Plack
Other Soils included are:	

Site Description Approval:

Author	Date	Approval	Date
Don Sylvester	11/25/81	Donald H. Fulton	03/03/82

Site Description Revision:

Author	Date	Approval	Date
Elizabeth Wright	06/19/02	George Chavez	12/17/02